

ABSTRACT

Original instructions, regarding an original document having a structure (e.g., an object model), for combined static and dynamic aspects of layout, display and user-interface behavior, are converted from an original markup language and a styling language to a binary format by use of a compilation process. The compilation process is specific to both the markup and the styling languages. Alternatively, video content in any of various formats can be compiled into a binary format including one or more of layout, rendering, UI interaction, and dynamic aspects.

The binary format is transmitted to a receiver with or without actual programming material, such as a television show. The received binary format is decoded for display and user interaction so as to be consistent with the original instructions. The binary format produced by the compilation process preserves the original document structure so that, after the decoding, the binary format can be manipulated.